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Change Climate, Work Team and Leadership Style: An Empirical Study on Information Systems Users (ISU) in Greece

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Abstract

This paper explores the impact of work team perceptions for change and leadership style on employees' psychological climate for change. The study begins with the presentation of the theoretical framework. Then, it reports the findings from an empirical investigation into the relationship between the researched variables on an ISU sample of organizations that have planned an organizational change. Three hypotheses derived from the integrative framework were tested. The findings support some of them. The value of the results is discussed.

Introduction

In the turbulent times facing contemporary organizations, change has become synonymous with standard business practices, as long-term organizational ends have to be reformulated on a continuous basis.

Despite the need for organizational change, we observe, based on the related literature, that the failure rate of the three types of organizational change projects (the introduction of new technology in the 1980s, the adoption of total quality management since the mid-1980s and, in recent years, the application of business process reengineering) ranged between 40 percent to 90 percent in the UK and the USA (Arnold et al., 1998). Those results prove the necessity to study systematically the diverse factors of organizational change.

The practice of change management is dependent on a number of factors that can facilitate organization's capacity for change (Porras and Robertson, 1992; Arnold et al., 1998). Factors related to human resources of organization are very important in every organizational change because the aim of this process is the behavioral transformation. The psychological climate is one of the factors that should play an integral role in the change process (Abraham et al., 1999; Appelbaum et al., 1998; Skilling, 1996). Thus, an issue of vital importance is how perceptions of organizational change climate are shaped among employees.

Also, the significant development of technology that constitutes the principal cause of organizational change, generates a significant augmentation in the number of ISU, who are subject to the major part of effects in each organizational change.

Although the importance of ISU has been recognized in some studies in Greece (Stefanou, 1999b), the impact of organizational change has not been studied.

Taking the above into consideration and due to lack of related research in Greece, the purpose of this study is the empirical investigation of the factors influencing the ISU's change climate perceptions.

Conceptual Background

The term of organizational change is relatively broad and includes the strategies, structures and practices of organizations the structural characteristics of the organization, work processes, human resource management practices, and industrial relation practices (Betcherman and McMullen, 1997).

In each type of organizational change the larger barrier is not changes to technologies and work processes but changes involving people (Appelbaum et al., 1998, Stefanou, 1999a;). According to Gateway Information Services, a New York consulting firm, 70% of all change programs fail due to employee resistance (Arnold et al., 1998). Given the poor success record of various intervention strategies, it is necessary to understand the dynamics of the factors, which intervene in removing resistances and creating a change climate. Armenakis et al. (1993) also aim at this direction urging that resistance to changes depends on the degree of readiness to change of the members of an organization, that is, whether or not there is a change-conducive climate.

It follows from the above, that, psychological climate representing an individual employee's perceptions, in other words the cognitive interpretations of the organizational context or situation (James and Jones, 1974) depends on a core set of organizational, social and individual factors.

Schneider and Reichers (1983) report that, climate as socially construct is influenced by the work interactions. Based on this view, understanding employees' climate perceptions, will necessitate understanding the "meaningful social unit" (Blumer, 1969, p.35) which the employee belongs to, in particular, whose employees interactions are characterized by greater frequency and immediacy (Kozlowski and Doherty, 1989).

The current study will exclusively focus on examining the influence of two dominant social unit relationships: a) employees related with work team and b) employees related with their supervisor. Both of them will be investigated in connection with employees' psychological climate for change.

A fair amount of research has documented the numerous ways in which groups exert social influence on individual members. Schneider and Reichers (1983) consider that micro-social factors, as the above interpersonal relations, can play a key role in influencing climate perceptions and also represent one of the major work setting elements for determining change behavior (Porras and Robertson, 1992; Weisbord, 1976). O'Reilly and Caldwell (1985), support the perceptual influence of groups among work peers. In particular, studies have shown that groups provide social information cues to members, which influence the nature of their task-related perceptions (O'Reilly and Caldwell, 1979). Bateman et al. (1987) report that perceptions regarding task-related issues among their study's participants shifted as a result of discussions that took place among co-workers in which influential social cues were disseminated.

According to the above, it is proposed as the first focus on the present study that the team's change climate view will be related to the employee's view.

Supporters of the emergent approach, which is a main theory of organizational change, represent the managerial behavior as necessary condition for change attempts and acceptance (Arnold et al., 1998). In change management process, the importance of leadership as a process through which a person tries to get others in the organization to do what he or she wants (Bass, 1990) is underscored by the fact that change, by definition, requires creating a new system (Kotter, 1995) which is accepted by the followers in assuring a successful change.

Several organizational change authors (Kotter, 1995; Nadler and Tushman, 1989) focus on the importance of leading the change from the top. On the other hand, Stace and Dunphy (1994) indicate that leadership at the top is not enough. Success depends on building a broader base of support with other individuals who first act as followers, then as helpers and finally as co-owners of the change.

The very idea of leadership presupposes the existence of followers. The activity of leadership cannot be carried out without followers to lead (Bass, 1990).

In an empirical research level there are several studies attempting to combine leadership, followership and change. This research area is no conclusive to date. Schneider and Bowen (1985) found a direct link between

management practices and employee climate perceptions. It also appears that leaders may influence organizational change by developing relationships with employees (Weisbord, 1976) and engaging in behavioral practices that determine climate (Burke and Litwin, 1992). Schnake and Dumler (1987) consider that social cues from the immediate supervisor play a role in shaping employee task-related perceptions. Also, Kozlowski and Doherty (1989) suggest that the supervisor-employee relationship may influence employee climate perceptions via shared interpretations, and Burke and Litwin (1992) cite a study in which managers' perceptions of team climate influenced individual employee perceptions. Tierney's empirical study (Eisenbach et al., 1999) shows that the quality of relationships with supervisors and fellow team members may be used as vehicles to create a favorable climate for change. Furthermore, Parry's study (Eisenbach et al., 1999) claims that a successful strategy for dealing with continuous organizational change is to resolve followers' uncertainty about the change process and enhance their adaptability through frequent communication, training and mentoring. Finally, Tierney (Eisenbach et al., 1999) uses work on organizational climate, Leader-Member Exchange, and group dynamics to support her study of the leaders' role in creating a favorable climate for change.

Therefore, the second focus of the study is how the supervisor-employee relationship, in other words the leadership style, influences the employee change climate perceptions.

In our study we use the styles of leadership called initiating structure and consideration according to Ohio State Leadership Studies terminology (Bass, 1990). We try to test those dimensions in the change process and provide support for the position that consideration and initiating structure may represent a transformational form of leadership for ISU during technological change in their organizations.

Hypotheses

Following the above focus, the propositions linking the independent and dependant variables are listed below:

H1: Employees working with a team which perceives a change climate (team change climate) will also perceive the climate as changeable.

H2: The leadership style influences the employee change climate.

H3: Employees working with a supervisor who perceives a change climate will also perceive the climate as changeable.

Methodology

Sample

Data were collected from September to October 1999 from ISU employed in 16 organizations of the private (N=11) and public (N=5) sector. Twelve of them are from the manufacturing sector and four are from the banking sector in Thessaloniki. The selection of participating organizations was based on the criterion of decision to change. According to Lewin (Arnold et al., 1998) the 16 organizations were in the exploration phase in change process, as it was identified by interviewing the team supervisors.

Of the 519 questionnaires distributed in these organizations, 465 (89.6 percent) usable ones were returned. The response rate across organizations ranged from 73 percent to 95 percent. Among them, 196 subjects were from the manufacturing sector and 269 from services. 115 were superiors and 350 subordinates. The age of the majority of respondents was between 31-40 years, 42 percent of them being female and 58 male. The average tenure at current position for the sample was 5.9 years (SD=5.35), with a total years of work experience of 15.80 (SD=8.35). The average posts changes at current organizations was 2.83 (SD=2.60) and between organizations was 2.26 (SD=2.95). As far as the educational level is concerned, 39.6 percent of them held a bachelor's degree and 31 percent held a college degree.

Procedure and instructions

Invitation letters explaining the purpose of the survey, the duties and conditions for participation were sent to the contact persons in the selected organizations. On obtaining the consent of the 16 organizations, we met with the team supervisors to explain what they had to do in the survey. The supervisors helped distribute survey materials to the subordinates in their teams.

Questionnaires were distributed to individuals by the author. Within each questionnaire there was a statement, which explained the general purpose of the research, voluntary nature of the participation, and assured confidentiality.

The surveys completed on-site during normal working hours. The author collected the surveys by the supervisors and their subordinates about 5-6 hours later.

Measures

Independent variables

For the *team change climate* score, climate score data were organized per work team and calculated by averaging the other team members' climate scores, excluding the focal employee's score and then calculating a team score for each member.

The *leadership style* was measured using the Supervisory Behavior Description Questionnaire (SBDQ), originating in the Ohio State University studies in the late 1940s. This instrument was developed to obtain descriptions of the leadership behavior of a superior as perceived by his or her subordinates and it has been used widely to measure leadership behavior (Bass, 1990).

This study defined leadership styles as the average subordinates perceptions for the present exercised leadership style with respect to the two leadership dimensions of SBDQ: consideration and initiating structure. The following descriptions are taken from Stogdill (1974, pp. 43-44):

"Consideration reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinates' ideas, and consideration of their feelings. Initiating Structure reflects the extent to which an individual is likely to define and structure his role and those of his subordinates toward goal attainment. A high score on this dimension characterizes individuals who play a more active role in directing group activities through planning, communicating information, scheduling, trying out new ideas, etc."

The SBDQ consist of 48 items (28 for consideration and 20 for initiating structure). Each of them had two 5-point Likert-type scales (1=very little; 5=a great deal). The subordinates were instructed to describe the leadership behavior of his superior toward(s) him. Also, supervisor describes his own leadership behavior. Reliabilities for these two subscales were: $\alpha=.63$ for consideration and $\alpha=.72$ for initiating structure.

In the present study, the measures of leadership patterns are behavioral descriptions, obtained only from subordinates because t-tests revealed that there were significant mean differences in the perceptions of leadership styles between managers and subordinates. In particular, the managers scored significantly higher than the subordinates in both leadership styles (consideration and initiating structure). This is not surprising since supervisors in general differ fundamentally from that of their subordinates (Yeh, 1995).

The correlation between the two dimensions of leadership style was .583. The sum of subordinates' descriptions for the 28 consideration items was calculated for each subordinate and formed the subordinate's perception of consideration behavior for his supervisor. A similar procedure was used for obtaining the perceived structure behavior score. The high correlation between the two dimensions of leadership style forced us to use their sum as final leadership style (Matsui et al., 1978). Each

subordinate score is classified into three categories of high, medium and low perception of leadership style.

Dependent variable

The *change climate* was measured via the 6-item questionnaire that we constructed especially for the needs of the present study. These items concern the accord or disaccord of respondents to change the structure of their department, the job design and the used technology. An extra item that measured the general accord or disaccord to change exhibited high correlation with each of the above 6 items ($r=.64$ to $r=.83$). In the following, we will consider the score of this item as the measure of employee psychological climate for change. Accord to change was coded with 1 and disaccord with 2.

Results

The Pearson chi-square test is used to test the proposed hypotheses. The results are depicted in Table 1.

Table 1: Chi-square levels for study's variables

Measure	Change Climate (Total sample)
Team change climate	54.847**
Leadership style	2.450
Supervisor change climate	2.071

** $p<.001$

According to the results, H1 is accepted. This means that employee's change climate is significantly depended on team change climate (Pearson chi-square=54.847 and p value=0.000).

The computed chi-square statistic for H2 in the total sample is 2.45 and has an associated significance level of more than 0.05. That result cannot provide support for H2 in the total sample. Therefore, the null hypothesis is accepted, that is, employee's change climate and leadership style variables are independent of each other. If we repeat the above statistical process to a sample of bank employees only (see Table 2), we observe that there is dependency between leadership style (group of high score: high consideration and high initiating structure) and change climate (Pearson chi-square=8.976 and p value=0.011).

Table 2: Chi-square levels for Bank ISU

Measure	Change Climate (Bank ISU)
Leadership style (group of high score)	8.976*

* $p<.01$

Regarding the results of Pearson chi-square (Pearson chi-square=2.071 and p value=0.355) we have found that H3 hypothesis is not accepted. The employee change climate is not depended on supervisor change climate.

Discussion

Organizations are trying to adapt to changing market conditions and competitive pressures by continuously transforming their business processes and strategies. This necessity requires the systematic management of organizational change, in which the human factor plays a crucial role.

Supervisors' and employees' perceptions, beliefs, values, motivations and inter-relations are critical in creating a change climate needed to achieve organization's goals.

The purpose of the current study was to determine the potential influence of team change climate, leadership style and supervisor change climate on Information Systems User's climate for change. The relational effects were examined in three ways.

Firstly, the influence of team psychological climate for change was tested to determine its effect on the employee's change climate perception. It was proposed that there would be a significant degree of alignment between employee's climate perception and that of their work team, which is considered basic social unit in each organization (Blumer, 1969). This study's results support the association between the work team perception of change and employee climate perceptions. It appears that teams who perceive the climate as changeable, are more likely to have individual members who share the same view. This effect lends credence to a social information processing explanation (Salancik and Pfeffer, 1978) suggesting that employees' sense of organizational reality is strongly linked to the reality communicated by their respective work teams. Specific to the current study, the finding is of interest because it expands the realm of the work team's potential influence on employee propensity for change.

Secondly, our results do not support the alignment between supervisor climate for change and employee climate perceptions. These findings could be explained by the results of other empirical studies in different work settings and diverse work outcomes, which support a disagreement of perceptions between supervisor and subordinate (Chiu et al., 1997). If this is the case, organizations should seek ways to reinforce supervisor-employee's communication channels as well as to encourage the creation of a change climate.

Finally, this study partially supports the position that the leadership style (as the sum of consideration and

initiating structure score) may influence employees' psychological climate for change. In particular, for bank employees this leadership style represents a potential mechanism for directing those employees toward change. It appears that the employees working in a context characterized by a high degree of technological innovations, such as a bank, are more susceptible to change through a combined leadership style (consideration and initiating structure).

Conclusions-Implications

Results of this study have several implications for both theory and practice.

From a theoretical perspective, the study represents an attempt to integrate literature related to organizational climate, leadership, and group dynamics.

From an empirical perspective, the study contributes by testing the theoretical proposition that social factors in the work setting (i.e. team-employee relationship and supervisor-employee relationship) will influence employees' change-related cognitions (i.e. change climate perceptions) as the change literature suggests (Porrás and Robertson, 1992). Also, this study constitutes an initial attempt to connect the consideration and initiating structure style with the concept of organizational change.

The main implication of this study is that organizations must be willing to support work teams in order to develop positive change climate.

It seems that, ISU bank managers also need to adopt a special leadership style (high consideration and initiating structure) to have a substantial impact on their employees' views for change.

As with any study, this research was subject to limitations. The generalization of results should be reinforced by studying more organizations and across countries. Another limitation of the study is that the independent and the dependent variables' data were collected from the same source. This can possibly allow some degree of common method variance.

Future research should also examine the impact of other variables on developing a change climate needed for successful change management, such as societal and organizational cultures (Dawson, 1994), organizational structure (Clarke, 1994) and information systems institutionalization on employees' attitudes (Jordan and Burn, 1997).

Finally, further research is needed to identify systematic integrative models of strategic organizational change with predictive capabilities. These models could be utilized both by management and organizational

researchers in order to facilitate the implementation of adaptive strategic change initiatives.

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